

ASSIGNMENT 3

Textbook Assignment: "Portable Fire-Fighting and Dewatering Equipment" and "Fire-Fighting Systems," chapters 5 and 6.

Learning Objective: Recall the basic characteristics and operation of portable fire extinguishers.

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| <p>3-1. When a portable CO₂ extinguisher is not available, a portable PKP fire extinguisher can be used to extinguish a class</p> <ol style="list-style-type: none">1. ALPHA fire2. BRAVO fire3. CHARLIE fire4. DELTA fire <p>3-2. Portable PKP extinguishers come in what two sizes?</p> <ol style="list-style-type: none">1. 10 pound and 20 pound2. 12 pound and 22 pound3. 14 pound and 25 pound4. 18 pound and 27 pound <p>3-3. Because it will cake up and form a clog, you should ensure no dry chemical remains in the hose and nozzle after using which of the following extinguishers?</p> <ol style="list-style-type: none">1. Halon2. CO₂3. PKP4. AFFF | <p>3-4. What type of portable fire extinguisher has a stainless steel cylinder and has a 55-65 second continuous discharge time with an initial range of 15 feet?</p> <ol style="list-style-type: none">1. PKP2. Halon3. CO₂4. AFFF <p>3-5. One AFFF portable fire extinguisher can vapor-seal a fuel spill of approximately what size?</p> <ol style="list-style-type: none">1. 6 feet by 6 feet2. 5 feet by 5 feet3. 3 feet by 3 feet4. 4 feet by 4 feet <p>3-6. You should never direct the spray from an AFFF portable extinguisher directly into hot cooking oil.</p> <ol style="list-style-type: none">1. True2. False <p>3-7. For approximately 40 seconds, the 15-pound CO₂ fire extinguisher can project a spray to what distance?</p> <ol style="list-style-type: none">1. Between 8 to 9 feet2. Between 7 to 8 feet3. Between 6 to 7 feet4. Between 4 to 6 feet |
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3-8. Before using a CO₂ fire extinguisher, you should take what precaution to avoid shock from static electricity?

1. Release pressure by opening the safety valve
2. Shake the cylinder for a few seconds
3. Ground the cylinder to the deck
4. Tap the cylinder with your fingers

Learning Objective: Recall the basic characteristics and operation of portable fire extinguishers.

3-9. What type of oxygen breathing apparatus (OBA) is used aboard most Navy ships?

1. Type A-1
2. Type A-2
3. Type A-3
4. Type A-4

3-10. The elements that activate the chemicals in the OBA quick-starting canister are the moisture and the

1. carbon in the breastplate assembly
2. citric acid in the facepiece cup
3. CO₂ from your exhaled breath
4. salt tablets in the breathing bag

3-11. When you are involved in hard work, the OBA canister will last for a maximum of how many minutes?

1. 45
2. 30
3. 15
4. 10

3-12. When you remove the cotter pin on the candle cover of an OBA canister, the candle

1. is broken in half
2. fires and the canister starts generating oxygen
3. is pushed to the front of the canister
4. is moved to the firing position

3-13. How often should you test the OBA facepiece for correct seal?

1. Monthly
2. Weekly
3. After each use
4. Before each use

3-14. To set the OBA timer, you turn the timer knob clockwise to 60 minutes and then turn it counterclockwise to 30 minutes.

1. True
2. False

3-15. The chemicals in the OBA canister can cause a violent explosion if they come into contact with

1. moisture
2. soap powder
3. bleach solutions
4. petroleum-based substances

3-16. The OOD may grant overboard disposal of used OBA canisters when your ship is more than how many miles from shore?

1. 10
2. 15
3. 20
4. 25

3-17. What environmental condition is required for the storage area for all OBA equipment and canisters?

1. Hot and humid
2. Cool and dry
3. Hot and dry
4. Cool and wet

3-18. The SCBA is the replacement for the OBA.

1. True
2. False

3-19. Which of the following assemblies is NOT a component of a SCBA?

1. Air tank assembly
2. Regulator assembly
3. Canister assembly
4. Facepiece assembly

3-20. The SAR/SCBA is designed primarily to support

1. fire fighting
2. gas-free testing and inspections
3. radiological defense
4. MOPP operations

3-21. One air cylinder can support a SCBA user for what maximum length of time, in minutes?

1. 40
2. 45
3. 50
4. 55

3-22. The fire-fighter ensemble is NOT a proximity suit. It is designed to protect a fire fighter from short duration flame exposure, heat, and falling debris.

1. True
2. False

Learning Objective: Recall the general characteristics of shipboard dewatering equipment.

3-23. Eductors can remove all breathing air if activated in remote spaces where ventilation is inadequate or not installed.

1. True
2. False

3-24. Before operating eductors, you must have the permission of what officer?

1. OOD
2. EEOW
3. Executive officer
4. Commanding officer

IN ANSWERING QUESTIONS 3-25 THROUGH 3-29, REFER TO FIGURE 3A.

- A. P-100 portable emergency pump
- B. Portable submersible pump
- C. Eductors
- D. Portable AFFF in-line eductor

Figure 3A

3-25. Which equipment draws water from the sea and pumps the water through hoses to supply the firemain and individual hoses?

1. A
2. B
3. C
4. D

3-26. Which equipment is used to mix a concentrate used to produce a solution for combating fires, especially class BRAVO fires?

1. A
2. B
3. C
4. D

3-27. Which equipment is designed to pump heavy oils and flammable liquids?

1. A
2. B
3. C
4. D

3-28. Which equipment has a 1.45-gallon fuel tank that allows a maximum of 2.75 hours of operation?

1. A
2. B
3. C
4. D

3-29. Which equipment should be connected directly to fire plugs to minimize inlet pressure reduction?

1. A
2. B
3. C
4. D

Learning Objective: Recall characteristics of desmoking fans and blowers and other miscellaneous portable damage control equipment.

3-30. What equipment provides power to the Ramfan™ through a 1 1/2-inch connection?

1. Either a portable or fixed eductor
2. Either a fixed eductor or a battery
3. Either the firemain or a P-100 pump
4. Either a battery or a P-100 portable eductor

3-31. Exhausting gases through ducts can create a static electric charge.

1. True
2. False

3-32. Because the Ramfan™ produces static electricity, you must ground the ground strap before its use.

1. True
2. False

3-33. Battle lanterns are mounted in strategic locations to illuminate passageways, damage control equipment, ladders, and scuttles.

1. True
2. False

3-34. The two types of battle lanterns used on ships are identified as either relay or portable.

1. True
2. False

Learning Objective: Recall the types of firemain systems and their function.

3-35. How many basic types of firemain systems can be installed on naval ships?

1. Five
2. Two
3. Three
4. Six

3-36. What type of firemain system consists of two single fore-and-aft, cross-connected mains, installed in the same horizontal plane?

1. Single main
2. Horizontal loop
3. Vertical loop
4. Composite

3-37. What type of firemain system consists of two cross-connected single mains running fore and aft but separated both horizontally and vertically?

1. Vertical offset loop
2. Composite
3. Horizontal loop
4. Single main

3-38. The firemain system distributes water that has been pumped from the sea to fireplugs and other fire-fighting systems as required.

1. True
2. False

Learning Objective: Recall the components and operation of an installed AFFF fire-fighting system.

3-39. What other agents are used in conjunction with AFFF to fight class BRAVO fires throughout the ship?

1. Halon
2. Sand
3. PKP
4. CO

- 3-40. AFFF is delivered through installed equipment only.
1. True
 2. False
- 3-41. AFFF systems are installed in spaces in a ship where research revealed what type of fires most often occur?
1. DELTA
 2. CHARLIE
 3. BRAVO
 4. ALPHA
- 3-42. How many types of pumps are used with the installed AFFF system?
1. One
 2. Two
 3. Three
 4. Four
- 3-43. The AFFF single-speed injection pump is a permanently mounted sliding-vane type of pump.
1. True
 2. False
- 3-44. AFFF single-speed injection pumps are available in what capacities?
1. 21, 24, and 32 gpm
 2. 18, 25, and 27 gpm
 3. 13, 15, and 20 gpm
 4. 12, 27, and 60 gpm
- 3-45. The AFFF two-speed injection pump system has a positive-displacement pump rated at what pounds per square inch (psi)?
1. 100
 2. 125
 3. 150
 4. 175
- 3-46. The high-speed mode of the AFFF two-speed injection pump is used when flow demand exceeds what rate?
1. 50 gallons per minute (gpm) for hangar bay and 75 gpm for bilge sprinklers
 2. 75 gpm for deck-edge sprinklers and 100 gpm for bilge sprinklers
 3. 150 gpm for hangar bay and deck-edge sprinklers and 225 gpm for bilge sprinklers
 4. 250 gpm for hangar bay and deck-edge sprinklers and 450 gpm for bilge sprinklers
- 3-47. AFFF transfer pumps have what maximum pumping capacity?
1. 300 gpm
 2. 360 gpm
 3. 380 gpm
 4. 400 gpm
- 3-48. AFFF is stored in service tanks of 50- to 2,000-gallon capacity and storage/transfer tanks of up to
1. 1,500-gallon capacity
 2. 2,000-gallon capacity
 3. 3,500-gallon capacity
 4. 4,000-gallon capacity

- 3-49. Which of the following types of valves are NOT associated with the AFFF system?
1. Powertrol, powercheck, and powertrol valve with test connection
 2. Hytrol, hycheck, and solenoid-operated pilot valve
 3. Balanced pressure proportioner (Type II), balanced pressure proportioner (Type III), and balancing valve
 4. Ballast and mitral
- 3-50. What type of valve protects the AFFF tank from seawater contamination or dilution?
1. Powertrol
 2. Powercheck
 3. Hytrol
 4. Balanced pressure proportioner
- 3-51. What type of valve is normally used as a sprinkler group control valve?
1. Hytrol
 2. Powercheck
 3. Powertrol with test connection
 4. Balanced pressure proportioner
- 3-52. What type of valve controls the flow of AFFF solution to systems?
1. Hytrol
 2. Powercheck
 3. Powertrol with test connection
 4. Balanced pressure proportioner
- 3-53. What type of valve allows the flow of seawater from the firemain system to be mixed with AFFF concentrate?
1. Hytrol
 2. Powercheck
 3. Hycheck
 4. Balanced pressure proportioner
- 3-54. What types of valves are electrically operated pilot valves that control the activation of many AFFF fire-extinguishing systems?
1. Hytrol
 2. Powercheck
 3. Powertrol
 4. Solenoid Operated Pilot Valve (SOPV)
- 3-55. Which of the following types of valves automatically proportions the correct amount of AFFF concentrate with seawater?
1. Hytrol
 2. Powercheck
 3. Balancing
 4. Powertrol
- 3-56. The balanced pressure proportioner (Type II) proportions the correct amount of AFFF concentrate necessary to produce effective AFFF/water solution over a wide range of flows and pressures.
1. True
 2. False

3-57. What system provides a convenient and quick method for the fire party to apply AFFF/water solution or water to large areas of burning fuel?

1. Firemain system
2. AFFF sprinkler system
3. Halon system
4. APC system

3-58. What system uses the countermeasure washdown flush-deck nozzles to discharge AFFF/water solution during flight deck and helo deck fires?

1. Firemain system
2. AFFF sprinkler system
3. Halon system
4. The flush-deck system

3-59. The service tank of the AFFF system always contains enough concentrate to combat any large fire.

1. True
2. False

3-60. All AFFF generating station service tanks can be replenished once the transfer main is pressurized either by the reserve pump or the on-station pump.

1. True
2. False

3-61. AFFF testing equipment includes the hand refractometer and what other piece of equipment?

1. Spectrograph
2. Reflex condenser
3. M-8 paper
4. Quantab chloride titrator strip

3-62. What instrument gives accurate readings of total dissolved solids in aqueous solutions?

1. Spectrograph
2. Hand refractometer
3. Reflex condenser
4. Spectrometer

3-63. After taking hand refractometer readings, you can determine the percent of AFFF concentrate that is being proportioned with water by using the following formula:

$$\frac{A}{B} \times 100 = \% \text{ of AFFF concentrate}$$

1. True
2. False

3-64. Quantab chloride titrator strips are used to measure what chemical compound in aqueous solutions?

1. Sodium hydroxide
2. Sulfuric acid
3. Sodium chloride (salt)
4. Potassium cyanide

- 3-65. The allowable limit for chloride contamination of AFFF concentrate is 2,000 ppm, which equates to what percent contamination?
1. 10
 2. 20
 3. 30
 4. 40
- 3-66. There are how many types of installed CO₂ flooding systems?
1. One
 2. Two
 3. Three
 4. Four
- 3-67. You should always direct the CO₂ discharge
1. at the base of a fire
 2. at the middle of a fire
 3. at the top of a fire
 4. above a fire
- 3-68. The number of valve control devices provided for a CO₂ flooding system depends upon the number of cylinders in the bank.
1. True
 2. False
- 3-69. Aboard aircraft carriers, what type of fire extinguishing system is normally installed in the gas-powered bomb hoist storerooms?
1. Firemain system
 2. AFFF sprinkler system
 3. Halon 1301 system
 4. Flush-deck system
- 3-70. Sufficient Halon is required so the concentration will remain at a minimum of 5 percent for how many minutes?
1. 45
 2. 30
 3. 15
 4. 10
- 3-71. Each Halon fixed-flooding system is designed to discharge completely the Halon 1301 gas into the protected space within how many seconds?
1. 40
 2. 30
 3. 20
 4. 10
- 3-72. What fire-extinguishing system provides protection for galley deep-fat and doughnut fryers and their exhaust systems?
1. APC
 2. PKP
 3. Halon 1301
 4. Installed CO₂